

REMARKS

Claim 1 has been amended to more particularly point and distinctly claim invention by reciting the distributor bar which receives separately the liquid phase and the vapor phase of the multicomponent heat exchange fluid and from which the two phase multicomponent heat exchange fluid is passed into the hardway fin section of the main volume. Support for the amendments to claim 1 is found in paragraphs 15, 16 and 17 as well as in Figure 1 and original claim 10 which has been amended accordingly along with original claim 9. The amendments made herein do not comprise new matter.

The Invention

The invention is an improved heat exchanger distributor for a two phase multicomponent heat exchange fluid which reduces both flow reversal and liquid logging, which are particularly problematic with multicomponent heat exchange fluids, by employing a distributor bar which separately receives the vapor and liquid phases of the multicomponent heat exchange fluid, and which passes the resulting two phase multicomponent heat exchange fluid into a partitioned hardway fin section of the main volume of the distributor.

The Rejections

Claims 1-4 and 10 were rejected under 35 USC 103(a) as being unpatentable over Schauls et al. (U.S. 3,559,722) in view of Schwartz et al. (U.S. 4,715,433); claims 5 and 6 were rejected under 35 USC 103(a) as being unpatentable over Schauls et al. and Schwartz et al. further in view of Aitken (U.S. 5,722,258); claims 7 and 8 were rejected under 35 USC 103(a) as being unpatentable over Schauls et al. and Schwartz et al. further in view of Sunder et al. (U.S. 5,122,174); and claim 9 was rejected under 35 USC 103(a) as being unpatentable over Schauls et al. and Schwartz et al. further in view of Petit et al. (U.S. Re 33,026). These rejections are respectfully traversed.

Schauls et al. discloses a heat exchanger having a hardway fin section 33. The heat exchanger of Schauls et al. does not employ a distributor bar. Moreover, as clearly discussed at column 4, lines 57-64, in the Schauls et al. system the vapor phase does not combine with the liquid phase until after it passes through the hardway fin section 33. It is thus clearly shown that Schauls et al. teaches away from the claimed invention. Schwartz et al. also fails to disclose or to suggest the distributor bar or the vapor/liquid flow and mixing characteristics of applicant's claimed invention. Thus the combination of Schauls et al. and Schwartz et al. fails to disclose or to suggest applicant's claimed invention. Indeed, fairly read, the combination of Schauls et al. and Schwartz et al. teaches away from the claimed invention. Accordingly, applicant respectfully submits that his claimed invention is patentable over the combination of Schauls et al. and Schwartz et al.

Neither Aitken, Sunder et al. nor Petit et al. provides any teaching which overcomes the deficiencies of Schauls et al. and Schwartz et al. discussed above. Accordingly applicant respectfully submits that his claimed invention is patentable over Schauls et al. and Schwartz et al. further in view of either Aitken, Sunder et al. or Petit et al.

Drawings

Claims 5 and 6 which recited serrated and perforated fins have been cancelled. Accordingly the objection to the drawings under 37 CFR 1.83(a) is now moot and need not be further addressed herein.

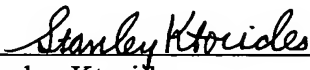
Applicant acknowledges the recitation of Stahlheber (U.S. 3,282,334), Butt (U.S. 3,310,105), Hoffman et al. (U.S. 3,568,462), Toyama et al. (U.S. 3,612,494), Nakato et al. (U.S. 3,792,842), Butt (U.S. 4,249,595), Becker (U.S. 3,256,704), Sweeney et al. (U.S. 5,709,264), Sweeney et al. (U.S. 5,755,279), and Corduan et. al. (U.S. 2004/0069471) which were not applied against the claims. Suffice it to say that none of these references discloses or suggests the claimed invention.

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In view of the foregoing, it is respectfully requested that the application be reconsidered and that all of the pending claims be allowed.

Respectfully submitted,



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